

IN THE CLAIMS

Kindly amend the claims as follows:

sub B1 → (Once Amended) A heat shrinkable film comprising a homogeneous linear single site catalyzed copolymer of ethylene and an alpha-olefin having from three to ten carbon atoms, said copolymer having a density of [at least about] above 0.90 g/cc, wherein said heat shrinkable film has been extruded and cooled to its solid state, and thereafter heated to its softening temperature and stretched in its machine and transverse directions followed by being quenched, so that said heat shrinkable film will return to its unstretched dimensions when heated.

2. (Once Amended) A heat shrinkable film as set forth in claim 1, wherein said homogeneous linear single site catalyzed copolymer is blended with [another thermoplastic homopolymer or copolymer] at least one member selected from the group consisting of a thermoplastic homopolymer and a thermoplastic copolymer.

3. (Once Amended) A heat shrinkable film as set forth in claim 2, wherein said [other thermoplastic homopolymer or] said thermoplastic copolymer of ethylene and an alpha-olefin has [having] from three to ten carbon atoms.

4. (Once Amended) A heat shrinkable film as set forth in claim 3, wherein said [heterogeneous] thermoplastic copolymer is heterogeneous, and has a density below about 0.90 g/cc.

5. (Once Amended) A heat shrinkable film as set forth in claim 3, wherein said [heterogeneous] thermoplastic copolymer is heterogeneous, and has a density above about 0.90 g/cc.

6. (Once Amended) A heat shrinkable film as set forth in claim 2, wherein said [other] thermoplastic [homopolymer or] copolymer [is] comprises a copolymer of ethylene and a second comonomer selected from the group consisting of vinyl acetate, alkyl acrylate, carbon monoxide, butadiene, styrene, acrylic acid, and a metal neutralized salt of an acrylic acid.

7. (Once Amended) A heat shrinkable film as set forth in claim 2, wherein said thermoplastic homopolymer [or copolymer is] comprises a homopolymer of an alpha-olefin.

Sub E2  
8. (Once Amended) A heat shrinkable film as set forth in claim 1, wherein said homogeneous linear copolymer [is] comprises a copolymer of ethylene and an alpha-olefin having from three to eight carbon atoms.

9. (Once Amended) A heat shrinkable thermoplastic film as set forth in claim 8, wherein said homogeneous linear copolymer [is] comprises a copolymer of ethylene and butene.

10. (Once Amended) A heat shrinkable film as set forth in claim 8, wherein said homogeneous linear copolymer [is] comprises a copolymer of ethylene and hexene.

11. (Once Amended) A heat shrinkable film as set forth in claim 8, wherein said homogeneous linear copolymer [is] comprises a copolymer of ethylene and octene.

13. (Once Amended) [A] The heat shrinkable film as set forth in claim [12] 1, wherein said homogeneous linear copolymer is present in an outer layer.

15. (Once Amended) [A] The heat shrinkable film as set forth in claim [12] 1, wherein said homogeneous linear copolymer is present in an inner layer.

16. (Once Amended) A heat shrinkable film having a substantially symmetrical structure comprising:

outer layers comprising a propylene homopolymer or copolymer; and

a core layer comprising a homogeneous linear single-site catalyzed copolymer of ethylene and an alpha-olefin having from four to eight carbon atoms, said homogeneous copolymer having a density above 0.90 g/cc;[.]

wherein said heat shrinkable film has been extruded and cooled to its solid state, and thereafter heated to its softening temperature and stretched in its machine and transverse directions followed by being quenched, so that said heat shrinkable film will return to its unstretched dimensions when heated.

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17. (Once Amended) A heat shrinkable film as set forth in claim 16, wherein said propylene [homopolymer or] copolymer [is] comprises a copolymer of from about 100 % to about 90 % by weight of propylene and from about 0 % to about 10 % by weight of ethylene.

Sub B3

18. (Once Amended) A heat shrinkable multilayer film comprising:

a heat sealing layer;

an inner layer comprising a homogeneous linear single site catalyzed copolymer of ethylene

and an alpha-olefin having from three to eight carbon atoms, said copolymer having a

density [of at least about] above 0.90 g/cc; and

a barrier layer;[.] and

wherein said heat shrinkable film has been extruded and cooled to its solid state, and thereafter heated to its softening temperature and stretched in its machine and transverse directions followed by being quenched, so that said heat shrinkable film will return to its unstretched dimensions when heated

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21. (Once Amended) A heat shrinkable multilayer film as set forth in claim 18, wherein said barrier layer [is] comprises an ethylene vinyl alcohol copolymer.

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26. (Once Amended) A heat shrinkable multilayer film as set forth in claim 18 further comprising [including] an additional layer which is an outer [abuse] layer.

sub B4 28. (Once Amended) A heat shrinkable multilayer film comprising:

a heat sealing layer comprising a homogeneous linear single site catalyzed copolymer of ethylene and an alpha-olefin having from three to eight carbon atoms, said copolymer having a density [of at least about] above 0.90 g/cc; and  
a barrier layer[.] and

wherein said heat shrinkable film has been extruded and cooled to its solid state, and thereafter heated to its softening temperature and stretched in its machine and transverse directions followed by being quenched, so that said heat shrinkable film will return to its unstretched dimensions when heated.

A7 31. (Once Amended) A heat shrinkable multilayer film as set forth in claim 28, wherein said barrier layer [is] comprises an ethylene vinyl alcohol copolymer.

AB 33. (Once Amended) A heat shrinkable multilayer film as set forth in claim 28, [including] further comprising an additional layer which is an outer [abuse] layer.

sub B5 35. (Once Amended) A heat shrinkable film comprising at least two layers wherein at least one of said layers comprises a homogeneous linear single site catalyzed copolymer of ethylene and an alpha-olefin [copolymer of ethylene and an alpha-olefin] having from three to eight carbon atoms, said copolymer having a density [of at least about] above 0.90 g/cc, and wherein at least one of said layers is crosslinked, and wherein said heat shrinkable film has been extruded and cooled to its solid state, and

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thereafter heated to its softening temperature and stretched in its machine and transverse directions followed by being quenched, so that said heat shrinkable film will return to its unstretched dimensions when heated.

36. (Once Amended) A heat shrinkable multilayer film having a [substantially] symmetrical structure comprising:

outer layers comprising a homogeneous linear single site catalyzed copolymer of ethylene and an alpha-olefin having from three to eight carbon atoms, said copolymer having a density [of at least about] above 0.90 g/cc; and  
an inner core layer[.] and

wherein said heat shrinkable film has been extruded and cooled to its solid state, and thereafter heated to its softening temperature and stretched in its machine and transverse directions followed by being quenched, so that said heat shrinkable film will return to its unstretched dimensions when heated.

37. (Once Amended) A heat shrinkable multilayer film as set forth in claim 36, wherein said inner core layer comprises a copolymer of ethylene and [a second] at least one comonomer selected from the group consisting of vinyl acetate, alkyl acrylate, acrylic acid, and a metal neutralized salt of an acrylic acid.

38. (Once Amended) A heat shrinkable multilayer film as set forth in claim 36, further including two [substantially] identical inner layers immediately adjacent opposed surfaces of said inner core layer.

39. (Once Amended) A heat shrinkable multilayer film as set forth in claim 38, wherein said inner layers comprise [comprises] a heterogeneous copolymer of ethylene and an alpha-olefin having from three to ten carbon atoms.

Kindly add the following newly-presented Claims 42-54, as follows:

42. A seamless tubing comprising a multilayer, heat shrinkable film comprising a homogeneous linear single site catalyzed copolymer of ethylene and an alpha-olefin having from three to ten carbon atoms, said copolymer having a density above 0.90 g/cc, wherein said film has been extruded and cooled to its solid state, and thereafter heated to its softening temperature and stretched in its machine and transverse directions followed by being quenched, so that said film will return to its unstretched dimensions when heated.

43. A process for making a heat-shrinkable film, comprising:

(A) extruding a film comprising a homogeneous linear single site catalyzed copolymer of ethylene and an alpha-olefin having from three to ten carbon atoms, said copolymer having a density of above 0.90 g/cc; and

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B) cooling the film to the solid state;

C) reheating the film to a softening temperature of the homogeneous linear single site catalyzed copolymer;

D) stretching the film so that an oriented molecular configuration is produced;

E) quenching the film while substantially retaining its stretched dimensions to set the film in the oriented molecular configuration.

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~~44. The process according to Claim 43, wherein the film is cooled to the solid state by chilled~~

~~air.~~

~~45. The process according to Claim 43, wherein the film is cooled to the solid state by~~

~~cascading water.~~

46. The process according to Claim 43, wherein the film is reheated to its orientation temperature range by hot water.

47. The process according to Claim 43, wherein the step of orienting by stretching is carried out using a trapped bubble.

48. The process according to Claim 43, wherein the step of orienting by stretching is carried out using a tenter frame.



49. The process according to Claim 43, wherein the film is oriented in both its machine direction and its transverse direction.

50. The process according to Claim 43, wherein the film is oriented at a temperature of from 83°C to 115°C.

51. The process according to Claim 43, wherein the film is oriented at a temperature of from 87°C to 99°C.

52. The process according to Claim 43, wherein the film is oriented at a temperature of from 91°C to 99°C.

53. The process according to Claim 43, further comprising irradiating the film after cooling the film to the solid state.

54. The process according to Claim 53, comprising irradiating the film after step E.

55. The process according to Claim 43, further comprising, between steps B and C, extrusion coating the film with a layer comprising at least one member selected from the group consisting of